

CLAIMS

WHAT IS CLAIMED IS:

1. A scroll compressor comprising:

a first scroll;

a second scroll being driven for orbital movement relative to said first scroll;

10 a reversible electric motor, said motor being operable to be driven in one direction at a first speed of rotation and cause said orbiting scroll to cyclically orbit in a forward direction at a first rate which is approximately equal to said first speed, and said motor being operable to be rotated in an opposed direction at said first speed, said orbiting scroll being caused to move in said forward direction when said motor is driven in said opposed direction at a rate which is different from said first rate by a mechanical transmission.

15 2. A scroll compressor as recited in Claim 1, wherein said different rate is lower than said first rate.

3. A scroll compressor as recited in Claim 1, wherein said mechanical transmission includes a gear transmission which varies the speed of said motor to said orbiting scroll.

20 4. A scroll compressor as recited in Claim 3, wherein said gear transmission provides a gear reduction.

5. A scroll compressor as recited in Claim 4, wherein said gear transmission is a planetary gear transmission.

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6. A scroll compressor as recited in Claim 5, wherein roller clutches selectively transmit rotation from a motor shaft to said orbiting scroll when said shaft is driven in said one and said opposed directions.

7. A scroll compressor as recited in Claim 3, wherein said gear transmission is provided between a shaft portion and an eccentric mounted between said shaft and said orbiting scroll.

8. A scroll compressor as recited in Claim 3, wherein said gear transmission is mounted between a motor rotor and a motor shaft.

9. A scroll compressor as recited in Claim 1, wherein said difference in rate is provided by a ratchet-type arrangement.

8 10. A scroll compressor as recited in Claim 9, wherein said ratchet-type arrangement provides rotation for an eccentric which drives said orbiting scroll through only a first portion of rotation of a motor shaft, and said crank does not move said orbiting scroll during a second portion of the rotation of said shaft.

15 11. A scroll compressor as recited in Claim 10, wherein said ratchet arrangement allows said non-movement.

- Amended
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12. A scroll compressor comprising:
- a first scroll member having a base and a scroll wrap extending from said base;
- a second scroll member having a base and a scroll wrap interfitting with said first scroll wrap;
- a bi-directional rotary motor for driving said second scroll relative to said first scroll, said motor being driven in a forward direction and in a reverse direction, said motor being driven at a first speed in said forward and reverse directions; and
- 10 a mechanical transmission for driving said second scroll in said forward direction when said motor is driven in both said reverse and forward directions, and at a speed which approximates the speed of said motor when said motor is driven in said forward direction, and said transmission reducing the speed of movement of said second scroll when said motor is driven in said reverse direction.
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13. A scroll compressor as recited in Claim 12, wherein said transmission includes a planetary gear transmission.

14. A scroll compressor as recited in Claim 13, wherein said planetary gear transmission is mounted between a shaft and an eccentric portion.

20 15. A scroll compressor as recited in Claim 13, wherein said planetary gear transmission is mounted between a shaft and a motor rotor.

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